Carbohydrates

* Function: - Energy source, cell communication, building materials, structural support
* Structure:
  + Monosaccharide: - a hydrocarbon chain or ring
  + Disaccharide: - two monosaccharides linked with a glycosidic bonded
  + Polysaccharide: - three or more monosaccharides linked with a glycosidic bonded

Lipids

* Fatty Acid
  + Function: - Cellular functions and energy storage
  + Structure: - Hydrocarbon chain with a carboxyl group
* Fats
  + Function: - Energy storage, heat insulation
  + Structure: - one to three fatty acid chains linked to glycerol
* Phospholipids
  + Function: - Cell membrane
    - Forms a bilayer in the cell membrane
  + Structure: - Two fatty acid chains and one phosphate group linked to glycerol
* Steroids
  + Function: - Hormone signalling, growth, cell response to environment
  + Structure: - Four carbon rings
* Waxes
  + Function: - water resistance and protection
  + Structure: - long fatty acid chains linked to alcohol or carbon rings

Proteins

* Function:
  + Framework support
  + Infection fighters
  + Messenger
  + Transport materials
  + Cellular makers
  + Catalyst
  + Movement
* Structure:
  + **Primary Structure**: linear chain of amino acid
  + **Secondary** **Structure**: β – pleated (side-by-side amino acid) and α – helix (hydrogen bond every four amino acid)
  + **Tertiary** **Structure**: continuous folding of primary and secondary structures through intermolecular reactions
  + **Quaternary** **Structure**: continuous folding of primary and secondary structures through intermolecular reactions between two or more polypeptides

Nucleic Acid

* Function: - Stores hereditary information and synthesizes proteins
* Structure: - Nucleotide
  + A carbon rings bonded to one to three phosphate groups and one nitrogenous base
  + Deoxyribose – a nucleotide where the 2-carbon is bonded to an H
  + Ribose - a nucleotide where the 2-carbon is bonded to an OH